**Effects of pollution on marine ecology of Southern Island**

**Saint John’s Island and Lazarus Island**

**Activities:**

Construction (Reclamation works have linked Pulau Seringat to Lazarus Island) 80% of island's terrestrial habitat will be left untouched in latest reclamation. However 2 patch reefs and much of original fringing reef have been reclaimed. Currently lots of construction on-going to reclaim land. Ship traffic, consists of Ferries travelling from Singapore. Water activities such as Jet skiing, boating take place at Lazarus lagoon.

**What pollution is caused from these activities?**

Ship pollution from the incoming and outgoing ferries, such as exhaust emissions and discharge of ballast water. Water pollution from the construction is also caused. When land is cleared it causes soil erosion that leads to silt-bearing run-off and sediment pollution. Silt and soil that runs into natural waterways turns them turbid, which restricts sunlight filtration and destroys aquatic life. Sources of water pollution on building sites include: diesel and oil; paint, solvents, cleaners and other harmful chemicals; and construction debris and dirt. Surface water run-off also carries other pollutants from the site may poison water life and any animal that drinks from them.

**Effects of these activities:**

An effect of construction (Water pollution) Surface water run-off also carries other pollutants from the site get into waterways they poison water life and any animal that drinks from them.  Animals that consume the water may get poisoned; fishes may die too, resulting in a decrease in local fish and animal population.

**List of Organisms in Lazarus Island**

Halfbeaks, breams, groupers and golden snappers, tusk fish, possibly sharks, Barramundi, mullet schools, reefs, sand whiting, rays, chermins, reef fish (32 species of reef fish from 17 families), and even dolphins.

**Sentosa**

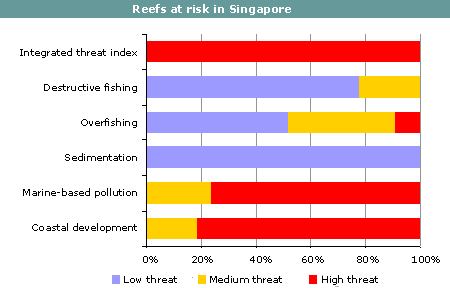
Sentosa is one of Singapore’s major tourism attractions, with visitors of up to five million people a year. The island has an area of 5 square kilometres. Secondary rainforest, the habitat of monitor lizards, monkeys, peacocks, parrots as well as other native fauna and flora cover 70% of the island.

**Activities:**   
There are many attractions and recreation spots, including a two-kilometre long sheltered beach, Fort Siloso, two golf courses and two five-star hotels, and the upcoming Resort Worlds at Sentosa, featuring the new theme park Universal Studios Singapore. It also hosts coastal beach parties.

**Possible sources of pollution from activities**

These beach parties can cause land, water and air pollution to the natural environment of Sentosa.  
BBQ fires in the parties can lead to air pollution as these smoke particles will also affect the people who inhale in the smoke, and cause health problems such as breathing difficulties. Improper disposal of waste and littering may lead to poisoning or diseases. These waste may float into the waters can cause harm to aquatic life, for example floating plastic bags can strangle marine organisms and result in death. Non-biodegradable items that are littered and left on the ground cause land pollution.

**Impacts:**

Aquatic life includes sea birds and smaller fishes. If these sea birds and small fishes die due to the plastic bags, it will impact the whole food chain and food web. The decrease in the population of these aquatic life will also cause a decrease in the population of their predators as there is lesser food for them. However, it will cause an increase in the population of their prey. Such an increase and decrease of the populations will in the end, impact the entire community structure, due to the change in populations. Thus, we can notice a domino impact in the system.

**Measures**

To prevent erosion and run-off, minimise land disturbance and leave maximum vegetation cover. Control dust through fine water sprays used to dampen down the site. Screen the whole site to stop dust spreading, or alternatively, place fine mesh screening close to the dust source. Stricter laws and fines to ensure that the organizers clean up after the beach parties, so as to minimise the impact on the environment. Constant education can be done, so as to educate the public about the impacts their actions impose on the environment.